

Customer Driven Interpretations

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What is a Customer Driven Interpretation?

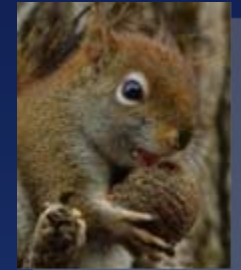
- An interpretation with customer involvement:
 - The customer has defined the need and we have data to help (complete or partial).
 - Involved to help define the criteria (Expert Opinion).
 - They use and sell the completed product.

What Customer Driven Interpretations do we have?

- Black Walnut Suitability Index
 - Doug Wallace, Fred Young and Kevin Godsey.
- Missouri Productivity Index
 - MFA Representative, Fred Young, and Gary Noel.
- Horticulture Interpretations
 - Specialists at Missouri State University, John Preston, and Alan Peer
- On-site waste disposal (septic filter fields & lagoons)
 - Randy Miles, Mark Abney, John Preston, Dick Henderson, Tom DeWitt, and Allan Johnston

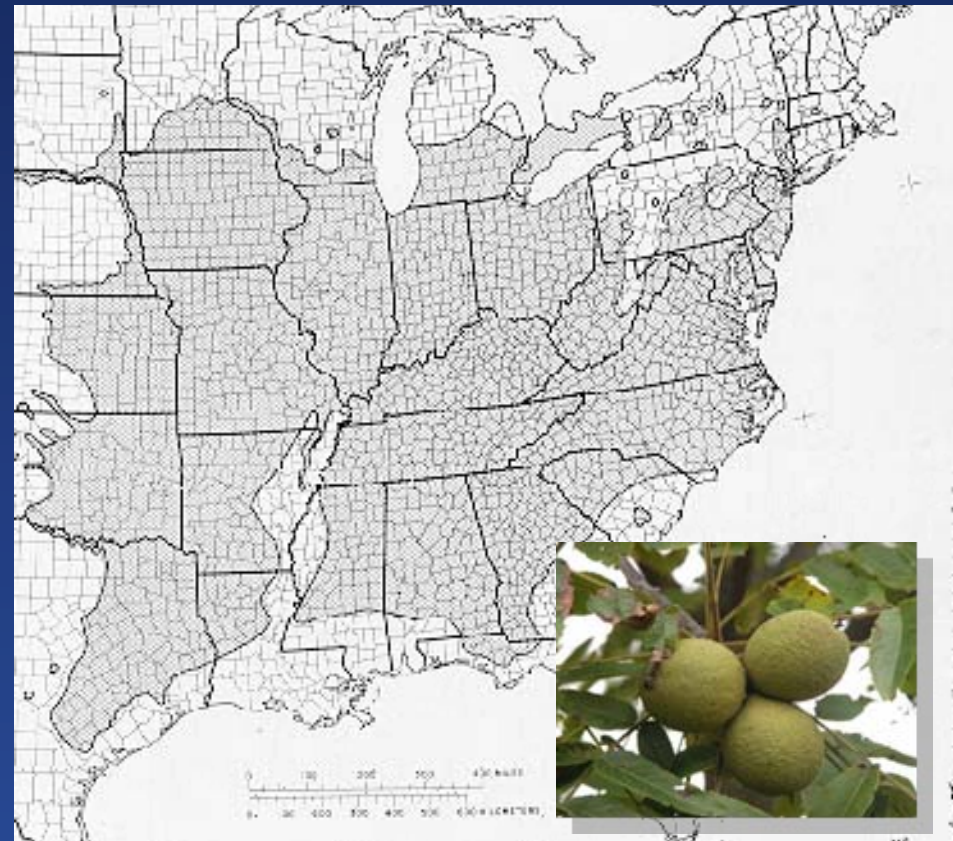


Black walnut (*Juglans nigra* L.)



Why our interest in black walnut?

- commercially valuable lumber, veneer and nut species
- provides important wildlife values
- extensive range across the entire Eastern United States
- commonly asked question

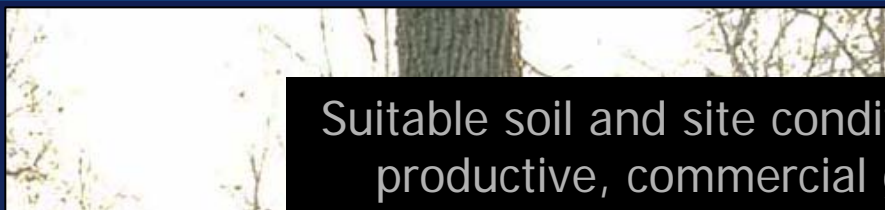





What is a good walnut soil ?

- What previous options were available to answer this question?
 - Trial and error.
 - Personal knowledge.
 - Research.
 - Use NRCS Conservation Tree and Shrub Groups (CTSG)
 - NRCS soil survey Forest Productivity tables (FPT).
- Drawbacks
 - Errors can be expensive.
 - Personal knowledge may be limited.
 - Research takes time and money
 - CTSG rates soils only as “suitable” or “unsuitable” for black walnut.
 - FPT have limited productivity information for black walnut.





Suitable soil and site conditions are essential for the productive, commercial growth of black walnut



Black walnut on a deep loess upland soil

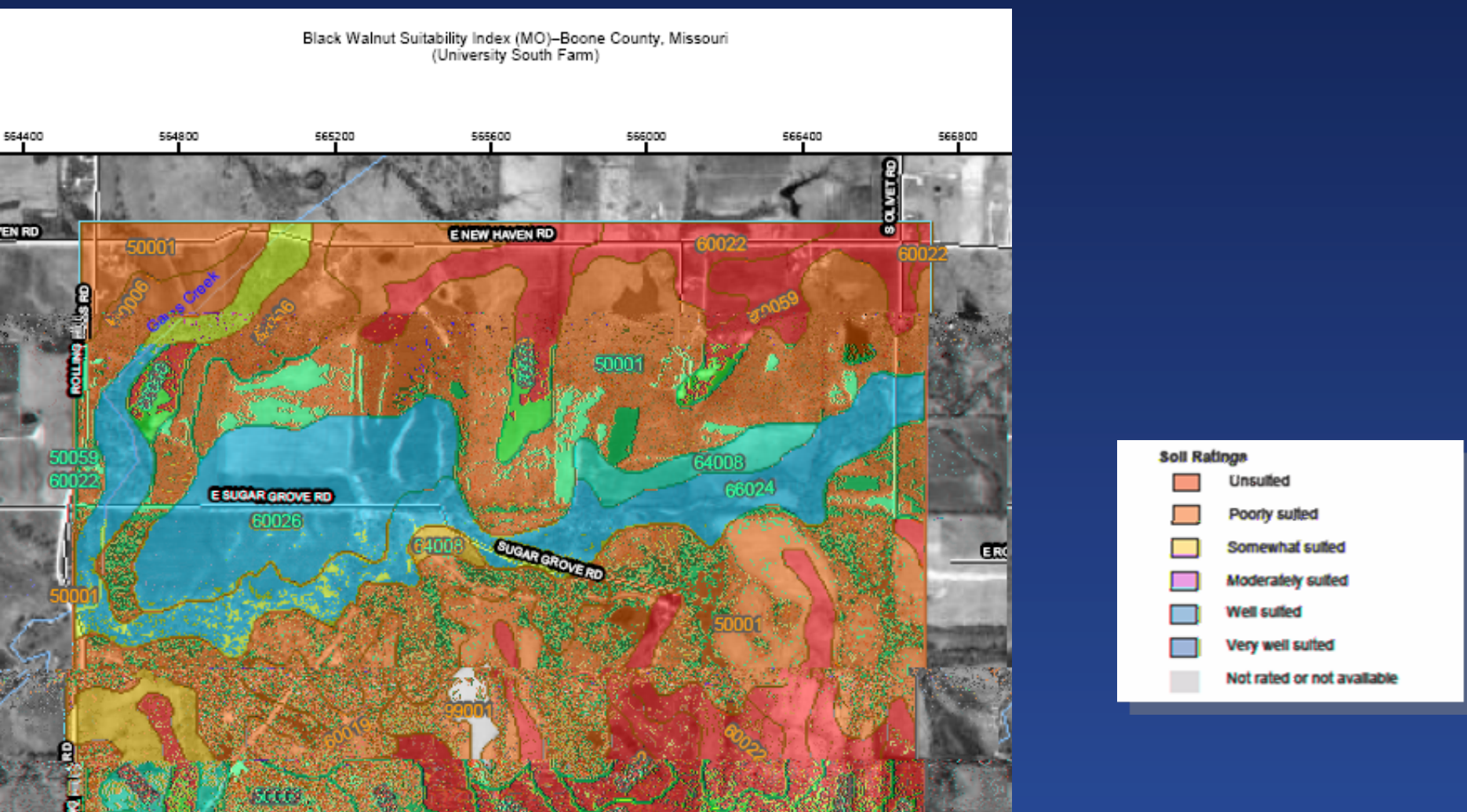


Black walnut on a deep well-drained bottomland soil

01/23/2007



Web Soil Survey – BWSSI Interpretive Map



Productivity Indices in Missouri

- Persinger & Vogt (revised 1995)
- Scrivner (Kiniry et al. Diry35)20005)• Iyncomplete• S

Why a PI?

- Soil survey users want to know:
 - Yields
 - Landowners; farmers
 - Relative rankings
 - What are the “best” soils?
 - Assessors, crop consultants, etc.
- The problem with yield data:
 - Become dated quickly
 - Dependent on management inputs, weather
 - Variable; must determine “typical” yield
 - Not widely or uniformly available
 - Good yield data for *some* soils, in *some* areas, using *current* management inputs (which *will* change)

Persinger & Vogt

- Six basic properties:
 - Nutrient supplying power
 - Depth of root penetration
 - Natural soil drainage
 - Soil texture
 - Flooding and ponding
 - Slope and erosion
- For each property, an “index” condition is established as the ideal for crop growth.
- For any given soil, deviation from the index conditions results in *subtracting* points from the soil’s PI.

Horticulture Interpretations

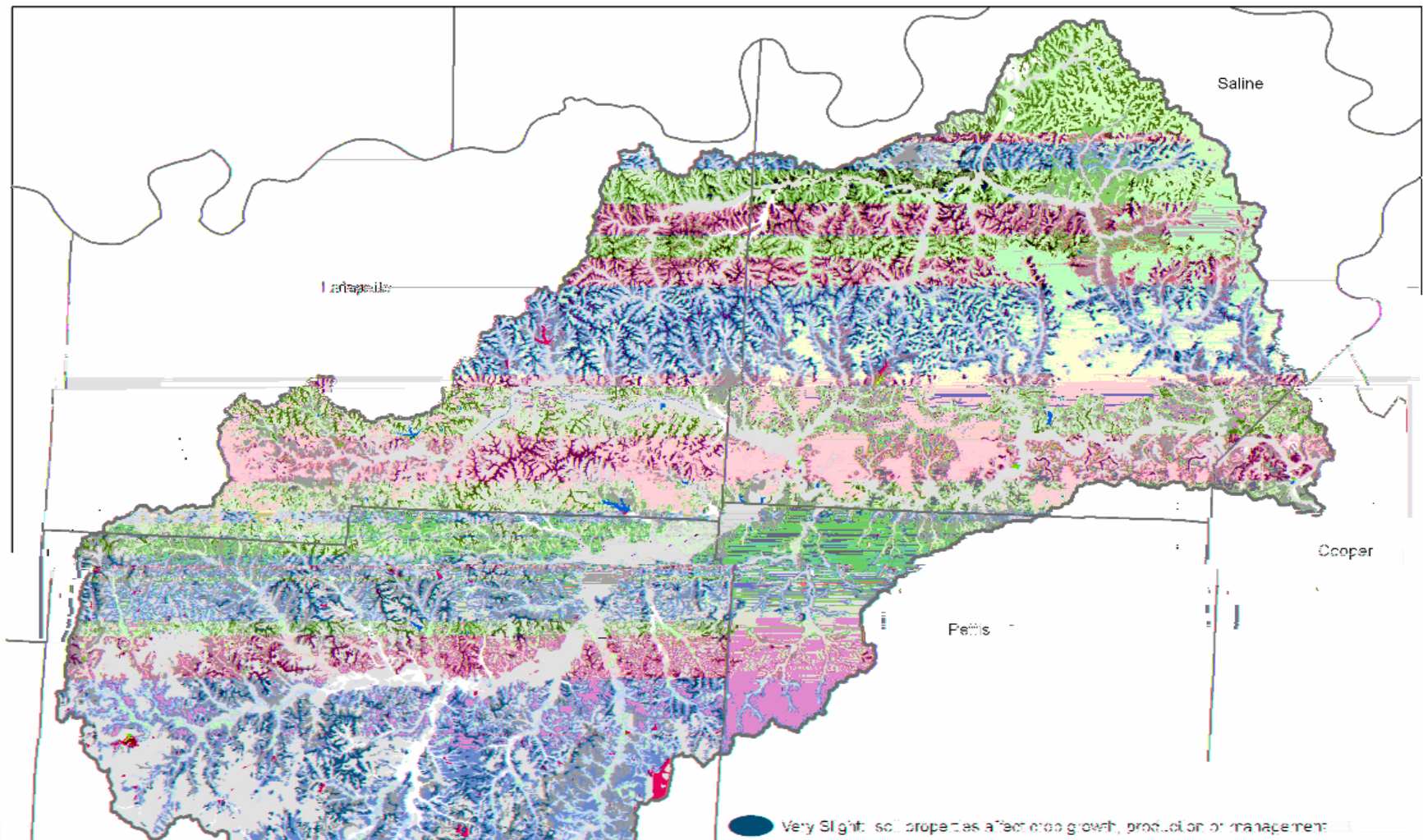
- Apples
- Blueberries
- Grapes
- Strawberries

Soil Properties that limit crop growth, production, or management

- Clayey subsoils
- Available Water Capacity
- Organic matter
- Water table problems
- Salinity
- Flooding and ponding
- Etc.

Potential for Grapes

horticultural_10300104.jpg - Windows Picture and Fax Viewer



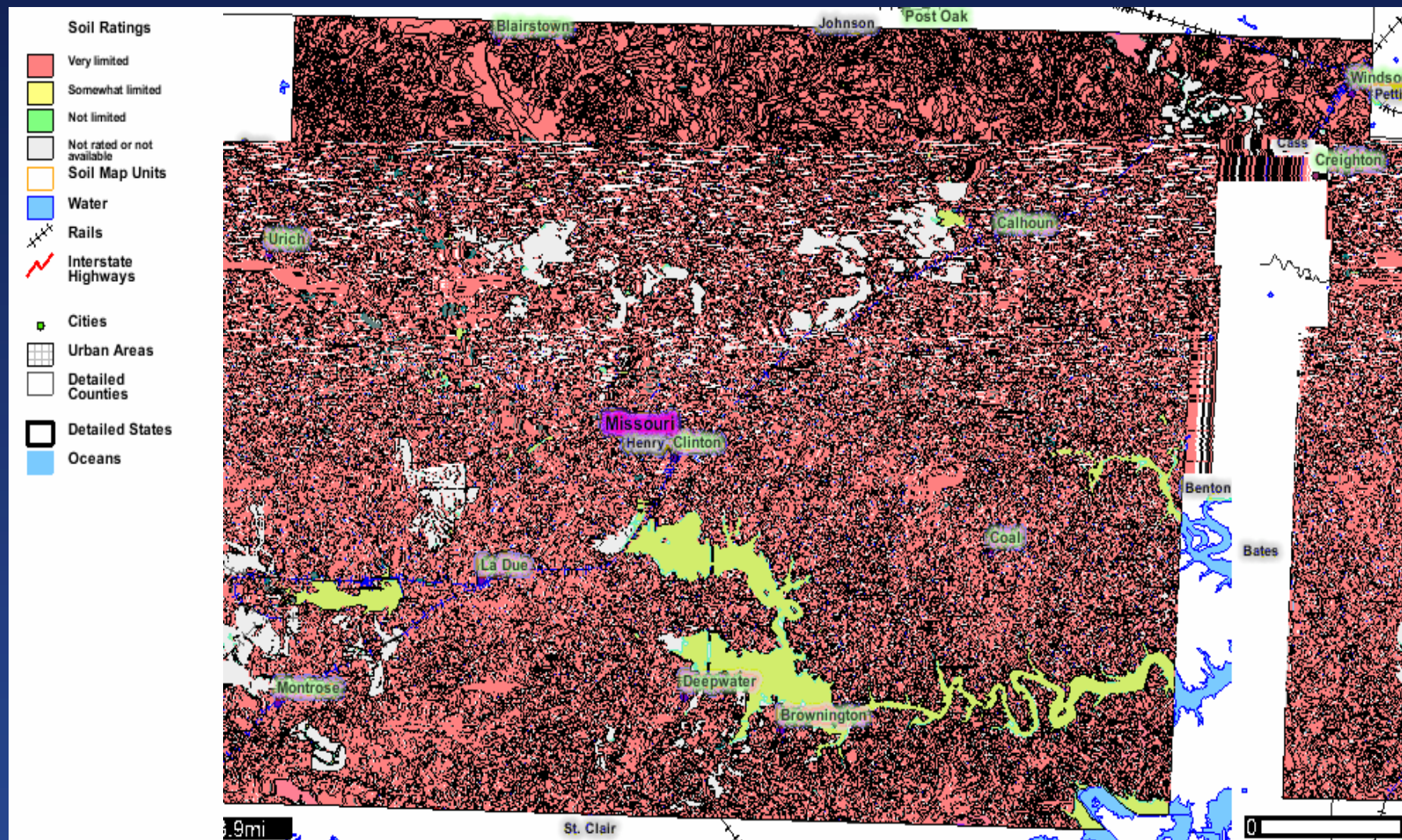
Soil Potential Index for On-Site Lateral Fields

Missouri's Truman Lake Area
(Henry, Benton, St. Clair, and Hickory Counties)



The interpretation utilizes the following soil properties

- Depth to Bedrock
- Flooding Frequency
- Sinkhole, Depression, or Karst Topography
- Slope
- Depth to Water Table
- Soil Texture and Structure Classes
- Depth to Fragipan
- Miscellaneous Areas



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